

**IN THE CLAIMS:**

1 1. (PREVIOUSLY PRESENTED) A method for a first file server to provide file service  
2 operations normally performed by a second file server after the second file server suffers  
3 an error condition, the first and second file servers operatively interconnected with a set  
4 of clients using a network protocol, the network protocol being free of support for mov-  
5 ing a transport address from the second file server to the first file server, the method  
6 comprising the steps of:  
7       detecting, by the first file server, that the second file server has suffered an error  
8 condition;  
9       asserting ownership, by the first file server, of a set of storage devices normally  
10 owned by the second file server;  
11       activating, on the first file server, a secondary data access port for receiving con-  
12 nections over a network; and  
13       processing, by the first file server, file service operations directed to the secondary  
14 data access port from a set of failover clients, the failover clients accessing the first file  
15 server by computing a network address associated with the first file server from a first  
16 symbolic name, the first symbolic name generated by the failover client from a second  
17 symbolic name associated with the second file server, whereby failover operation is  
18 achieved by the client.

1 2. (ORIGINAL) The method of claim 1 wherein the step of detecting the error condition  
2 further comprises the steps of sending, by the second file server, an error message to the  
3 first file server.

1 3. (ORIGINAL) The method of claim 1 wherein the step of detecting an error condition  
2 further comprises the step of:  
3 detecting, by the first file server, a lack of a status signal generated by the second  
4 file server.

1 4. (ORIGINAL) The method of claim 1 wherein the secondary data access port is a vir-  
2 tual interface discriminator.

1 5. (CANCELLED)

1 6. (PREVIOUSLY PRESENTED) A method for a client to continue to access file ser-  
2 vice operations after a first file server has suffered an error condition, the method com-  
3 prising the steps of:  
4 computing a failover name by appending a set text string to a name of the first file  
5 server;  
6 resolving the failover name to a network address;  
7 connecting to a failover file server using the network address and a predetermined  
8 alternate data access port.

1 7. (PREVIOUSLY PRESENTED) The method of claim 6 wherein the predetermined  
2 alternate data access port further comprises a virtual interface discriminator.

1 8. (CANCELLED)

1 9. (CANCELLED)

1 10. (CANCELLED)

1 11. (CANCELLED)

1 12. (CANCELLED)

1 13. (PREVIOUSLY PRESENTED) A computer-readable medium, including program  
2 instructions executing on a client, for the client to continue to access file service opera-  
3 tions after a first file server has suffered an error condition, the instructions including  
4 steps for:  
5       computing a failover name by appending a set text string to a name of the first file  
6       server;  
7       resolving the failover name to a network address; and

8 connecting to a failover file server using the network address and a predetermined  
9 alternate data access port.

1 14. (PREVIOUSLY PRESENTED) A method for operating a computer failover system,  
2 comprising:

3 executing a client computer program on a client computer, the client computer  
4 program communicating with a first file server, the first file server associated with a file  
5 server name;

6 computing from the file server name, by a file system process on the client com-  
7 puter, a failover name associated with a failover file server;

8 resolving the failover name to a network address;

9 detecting an error condition; and

10 connecting, in response to detecting the error condition, to a failover file server  
11 port having the network address.

1 15. (PREVIOUSLY PRESENTED) The method as in claim 14, further comprising:

2 computing the failover name by modifying the file server name by an alphanu-  
3 meric text.

1 16. (PREVIOUSLY PRESENTED) The method as in claim 14, further comprising:

2           computing the failover name by appending the text “backup” to the file server  
3   name used to communicate with the first file server.

1   17. (PREVIOUSLY PRESENTED) The method as in claim 14, further comprising:  
2           transmitting the failover name to a distributed naming service to perform the step  
3   of resolving the failover name to a network address.

1   18. (PREVIOUSLY PRESENTED) The method as in claim 14, further comprising:  
2           using a database program as the client computer program.

1   19. (PREVIOUSLY PRESENTED) The method as in claim 14, wherein the step of de-  
2   tecting the error condition further comprises:  
3           detecting a lack of a heartbeat signal from a failed file server.

1   20. (PREVIOUSLY PRESENTED) The method as in claim 14, wherein the step of de-  
2   tecting the error condition further comprises:  
3           transmitting by a failing file server an “I am failing” message.

1   21. (CANCELLED)

1 22. (PREVIOUSLY PRESENTED) A computer failover system, comprising:  
2 means for executing a client computer program on a client computer, the client  
3 computer program communicating with a first file server, the first file server associated  
4 with a file server name;  
5 means for computing from the file server name, by a file system process on the  
6 client computer, a failover name associated with a failover file server;  
7 means for resolving the failover name to a network address;  
8 means for detecting an error condition; and  
9 means for connecting, in response to detecting the error condition, to a failover  
10 file server port having the network address.

1 23. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:  
2 means for computing the failover name by modifying the file server name by an  
3 alphanumeric text.

1 24. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:  
2 means for computing the failover name by appending the text "backup" to the file  
3 server name used to communicate with the first file server.

1 25. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:

2 means for transmitting the failover name to a distributed naming service to per-  
3 form the step of resolving the failover name to a network address.

1 26. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:

2 means for using a database program as the client computer program.

1 27. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:

2 means for detecting a lack of a heartbeat signal from a failed file server.

1 28. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:

2 means for sending, by a failing file server, an error message to the first file server.

1 29. (PREVIOUSLY PRESENTED) The system as in claim 22, further comprising:

2 means for transmitting by the failing file server an "I am failing" message.

1 30. (PREVIOUSLY PRESENTED) A computer failover system, comprising:

2 a client computer having a client computer program executing thereon, the client  
3 computer program communicating with a first file server, the first file server associated  
4 with a file server name;

5 a file system process on the client computer, the file system process computing  
6 from the file server name a failover name associated with a failover file server;

7           a port to transmit the failover name to a distributed name server to resolve the  
8 failover name to a network address;  
9           a port to receive a message reporting an error condition in the first file server; and  
10          a file system process to use the failover name and network address to connect, in  
11 response to the error condition, to a failover file server port having the network address.

1   31. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:  
2           a file system process to compute the failover name by modifying the file server  
3 name by an alphanumeric text.

1   32. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:  
2           a file system process to compute the failover name by appending the text  
3 “backup” to the file server name used to communicate with the first file server.

1   33. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:  
2           a file system process to transmit the failover name to a distributed naming service  
3 to perform the step of resolving the failover name to a network address.

1   34. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:  
2           the client computer program is a database program.



1 35. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:

2 means for detecting a lack of a heartbeat signal from a failed file server.

1 36. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:

2 means for sending, by a failing file server, an error message to the first file server.

1 37. (PREVIOUSLY PRESENTED) The system as in claim 30, further comprising:

2 means for transmitting by the failing file server an "I am failing" message.

1 38. (PREVIOUSLY PRESENTED) A computer readable media, comprising:

2 said computer readable media containing instructions for execution on a processor

3 for the practice of a method for operating a computer failover system, the method having

4 the steps of,

5 executing a client computer program on a client computer, the client computer

6 program communicating with a first file server, the first file server associated with a file

7 server name;

8 computing from the file server name, by a file system process on the client com-

9 puter, a failover name associated with a failover file server;

10 resolving the failover name to a network address;

11 detecting an error condition; and

12 connecting, in response to detecting the error condition, to a failover file server  
13 port having the network address.

1 39. (CANCELLED)

1 40. (PREVIOUSLY PRESENTED) A client interconnected to a first file server and to a  
2 second file server, the client comprising:

3 means for detecting the first file server has suffered an error condition;

4 means for computing a failover name by appending a set text string to a name of  
5 the first file server;

6 means for resolving the failover name to a network address;

7 means connecting to a failover file server using the network address and a prede-  
8 termined alternate data access port.

1 41. (PREVIOUSLY PRESENTED) The client of claim 40 wherein the predetermined  
2 alternate data access port further comprises a virtual interface discriminator.

1 42. (PREVIOUSLY PRESENTED) A method for a first file server to provide file ser-  
2 vice operations normally performed by a second file server after the second file server  
3 suffers an error condition, the method comprising:

4           detecting, by the first file server, that the second file server has suffered an error  
5   condition; and  
6           processing, by the first file server, file service operations from a set of failover  
7   clients, the failover clients accessing the first file server by computing a network address  
8   associated with the first file server from a first symbolic name, the first symbolic name  
9   generated by appending a set text string to a second symbolic name of the second file  
10   server.

1   43. (PREVIOUSLY PRESENTED) The method of claim 42 further comprising:  
2           activating, on the first file server, a secondary data access port for receiving con-  
3   nections over a network; and  
4           servicing file service operations from the set of failover clients using the secon-  
5   dary data access port.

1   44. (PREVIOUSLY PRESENTED) The method of claim 42 further comprising:  
2           asserting ownership, by the first file server, of a set of storage devices normally  
3   owned by the second file server.

1   45. (PREVIOUSLY PRESENTED) The method of claim 42 further comprising:

2           transmitting the first symbolic name to a distributed naming service to compute  
3   the network address.

1   46. (PREVIOUSLY PRESENTED) The method as in claim 42, wherein the step of de-  
2   tecting further comprises:

3           detecting a lack of a heartbeat signal from the second file server.

1   47. (PREVIOUSLY PRESENTED) The method as in claim 42, wherein the step of de-  
2   tecting further comprises:

3           transmitting by the second file server a message indicating that failover should  
4   begin.

1   48. (PREVIOUSLY PRESENTED) A computer failover system allowing a first file  
2   server to provide file service operations normally performed by a second file server after  
3   the second file server suffers an error condition, the system comprising:

4           means for detecting, by the first file server, that the second file server has suffered  
5   an error condition; and

6           means for processing, by the first file server, file service operations from a set of  
7   failover clients, the failover clients accessing the first file server by computing a network  
8   address associated with the first file server from a first symbolic name, the first symbolic

9 name generated by appending a set text string to a second symbolic name of the second  
10 file server.

11 49. (PREVIOUSLY PRESENTED) A computer-readable medium comprising program  
12 instructions executing for execution on a processor for the practice of a method for oper-  
13 ating a computer failover system, the method having the steps of:

14 detecting, by a first file server, that a second file server has suffered an error con-  
15 dition; and

16 processing, by the first file server, file service operations from a set of failover  
17 clients, the failover clients accessing the first file server by computing a network address  
18 associated with the first file server from a first symbolic name, the first symbolic name  
19 generated by appending a set text string to a second symbolic name of the second file  
20 server.